

**State of California
Department of Water Resources**

**FLOODPLAIN MAPPING AND
MAP MODERNIZATION WORKSHOP**

September 22, 2006

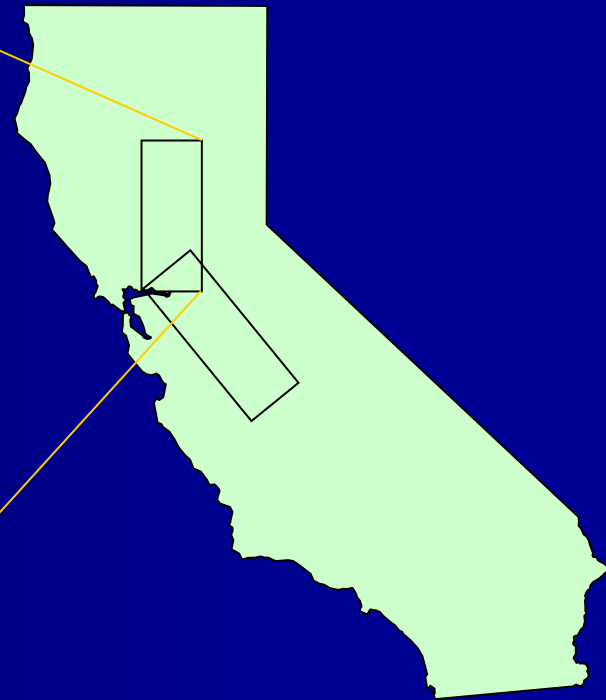
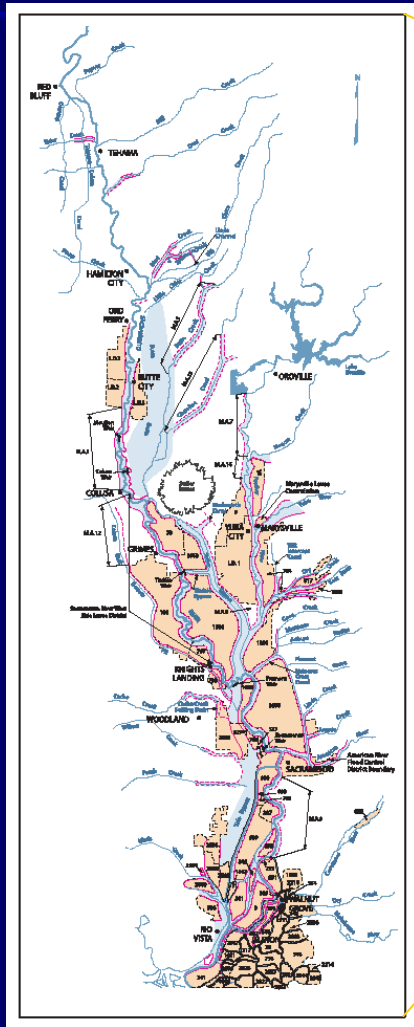
**Ricardo S. Pineda, PE, CFM, Chief
Floodplain Management Branch**

Agenda Item Nos. III and IV

DWR Floodplain Mapping Program

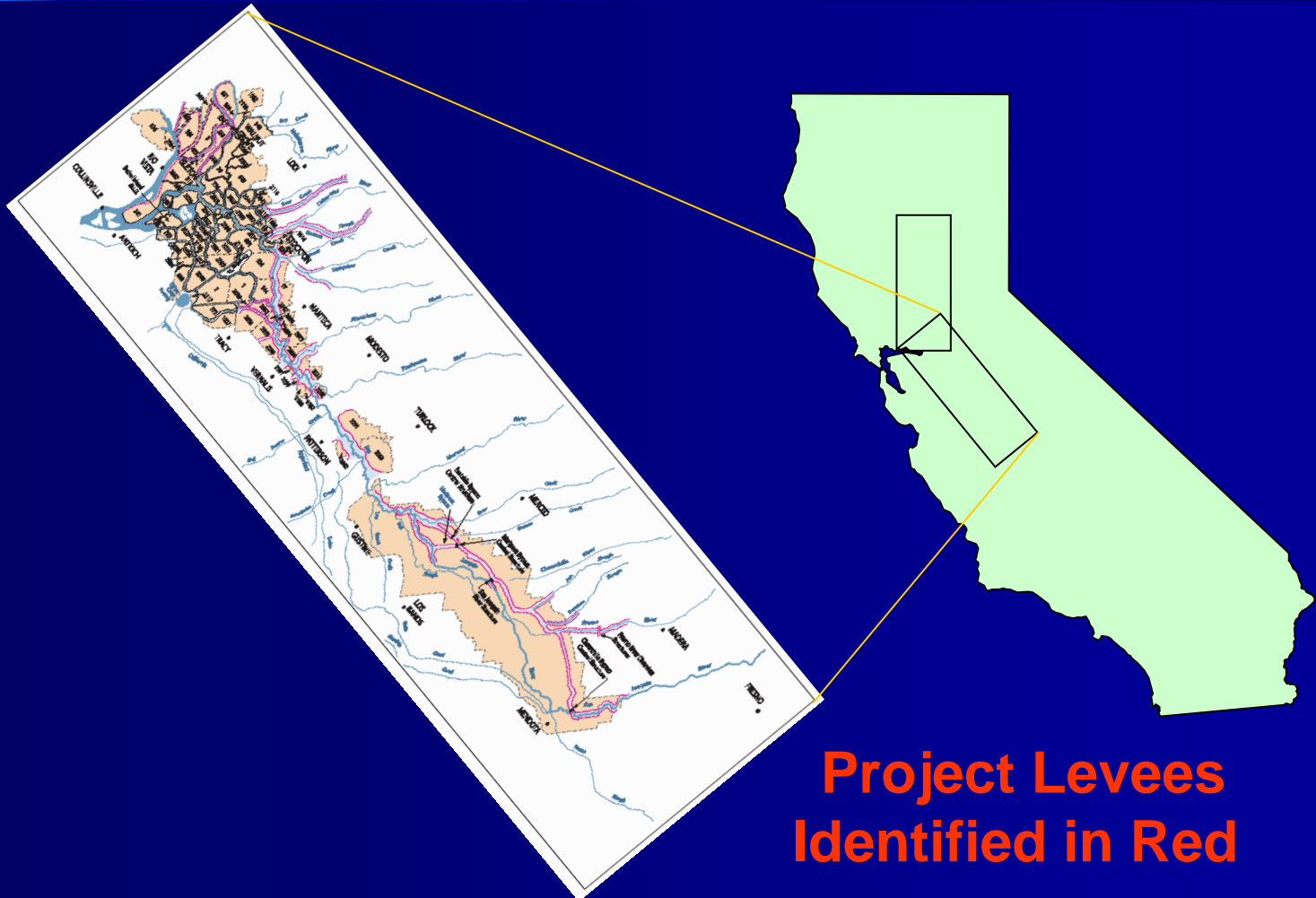
One of the objectives of this program is to support MAP MOD to update FEMA's Flood Insurance Rate Maps for areas protected by the 1,600 miles of Federal-State Project Levees in the Central Valley

Sacramento River Basin Project Levees



**Project Levees
Identified in Red**

San Joaquin River Basin Project Levees



Geotechnical Analyses

DWR will complete geotechnical borings, CPTs (cone penetration tests) and post drilling analyses for approximately 300 miles of Federal-State Project Levees protecting urban areas in the Central Valley

Levee Elevation Surveys

- ▶ DWR will establish a program to conduct topographic surveys of the Federal-State Project Levee System over a period of five years
- ▶ Approximately 300 miles of Project Levee profiles and cross sections will be completed each year
- ▶ Also, DWR will develop topographic data supporting analyses for non-project levees, other stream systems, and overbank areas

Digital Elevation Models

- ▶ IFSAR
- ▶ LIDAR
- ▶ Aerial Surveys
- ▶ Ground Surveys
- ▶ Bathymetric Surveys

Hydrology and Hydraulic Studies

- ▶ **Anticipate a two-year agreement with the USACE to update the flood hydrology for the Sacramento River and San Joaquin River Basins**
- ▶ **Preliminary plans include the development of the 10, 50, 100, 200, and 500-year flow hydrographs for all storm centerings on the Sacramento and San Joaquin River Basins related to Project Levee analyses**

California Levee Database

- ▶ **DWR is developing a statewide geospatial levee inventory database**
- ▶ **The objective is to capture pertinent attribute and study data on all levee systems throughout the State**

California Levee Database

BENEFITS

- ▶ **Direct support for FEMA, USACE, DWR, and communities for the development of accurate floodplain data that reflect the existing levee systems**
- ▶ **Assist the State and communities in emergency response efforts**
- ▶ **Assist the State and communities in hazard mitigation planning**

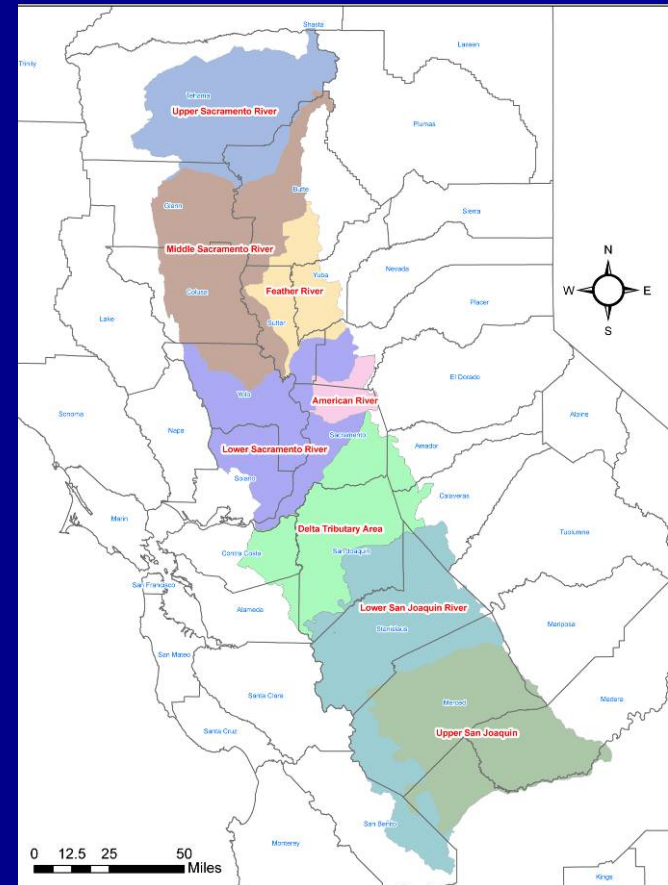
California Levee Database

STATUS

- ▶ **Statewide data capture of geographic location of levee structures and levee attributes**
- ▶ **Accomplishments to date:**
 - **150 agencies/jurisdictions contacted**
 - **13,700 miles of levees identified and reviewed**
 - **860 FIRM panels geo-referenced and reviewed**

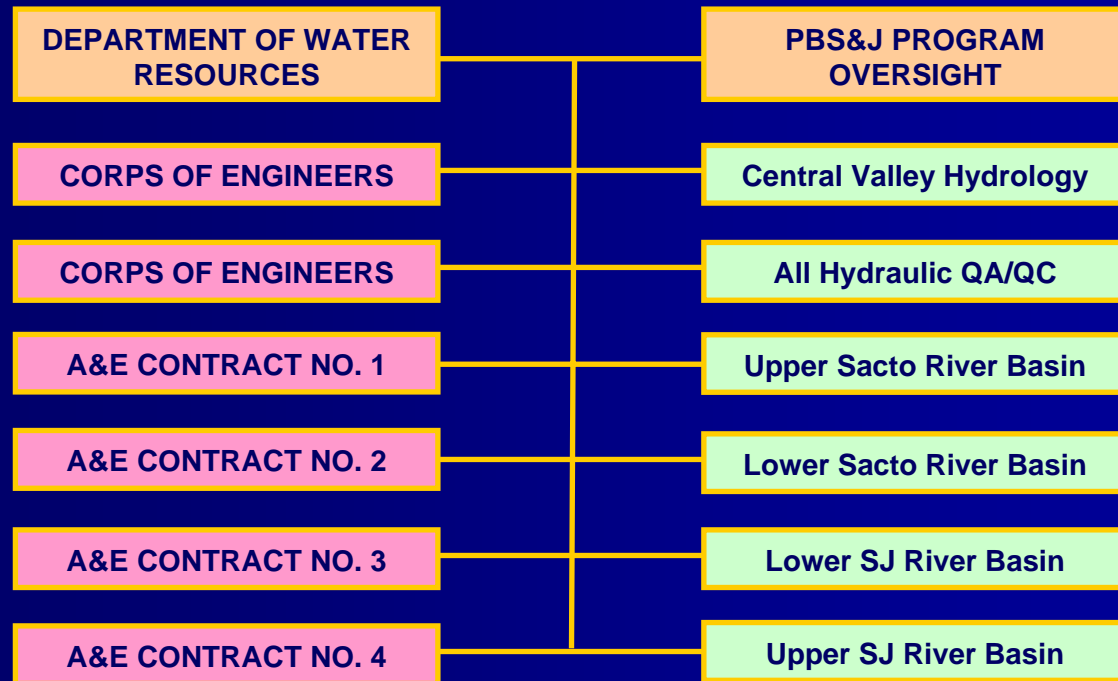
Central Valley Floodplain Mapping Plan

- ▶ **5-year, \$120 million plan**
- ▶ **Approximate Study limits**
 - **Red Bluff in the North**
 - **Mendota in the South**
- ▶ **Assess levee geotechnical issues**
- ▶ **Provide accurate floodplain mapping**
- ▶ **Maps applicable for NFIP**



DWR Floodplain Mapping Program

Execution Structure



Major Schedule Checkpoints

▶ At Two Years...

- Complete Central Valley Hydrology
- Provide FEMA Initial Mapping Data

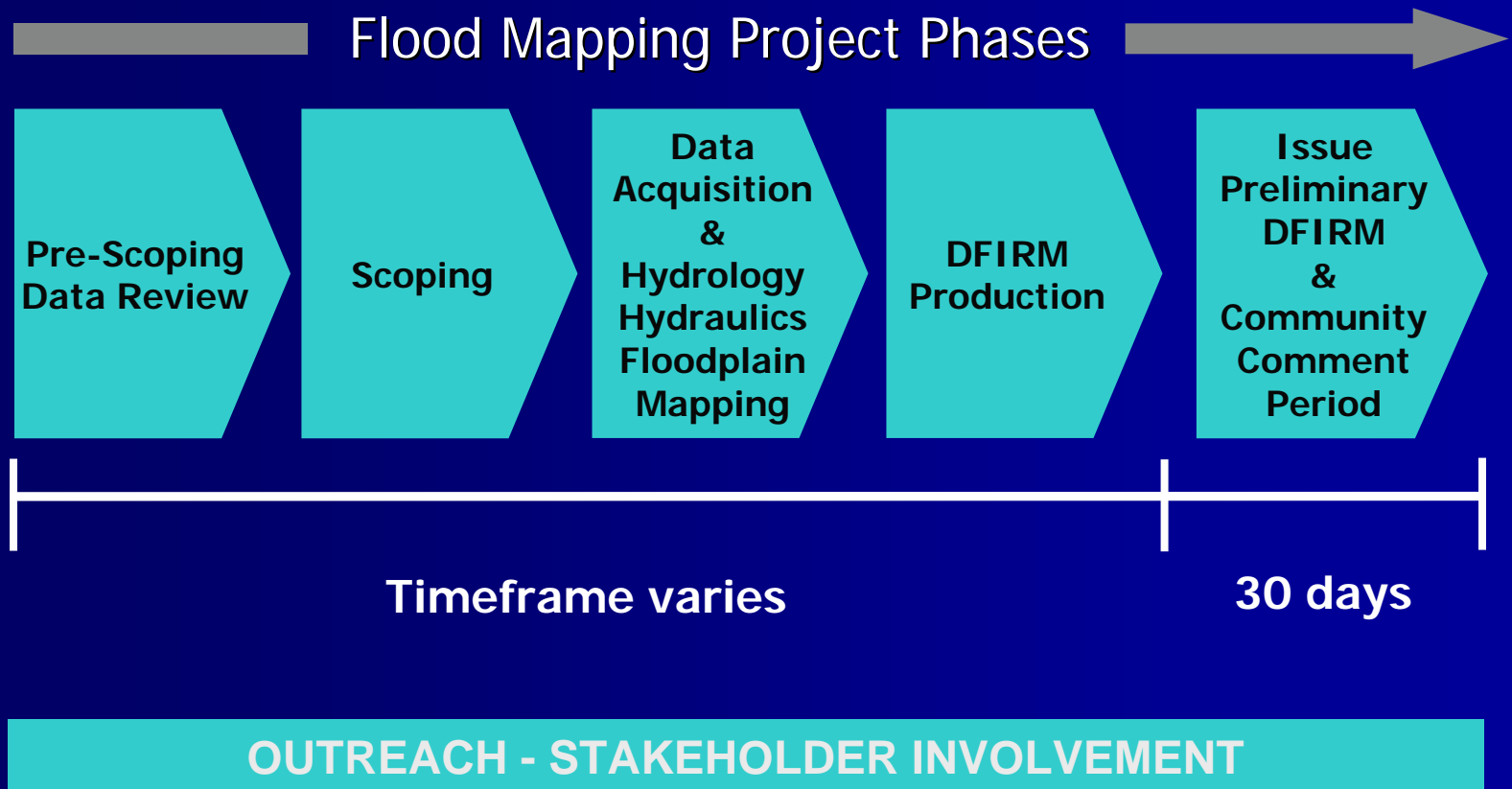
▶ At Five Years...

- Pending funding, complete all detailed floodplain maps
- Pending additional funding, continue mapping other critical areas in the State

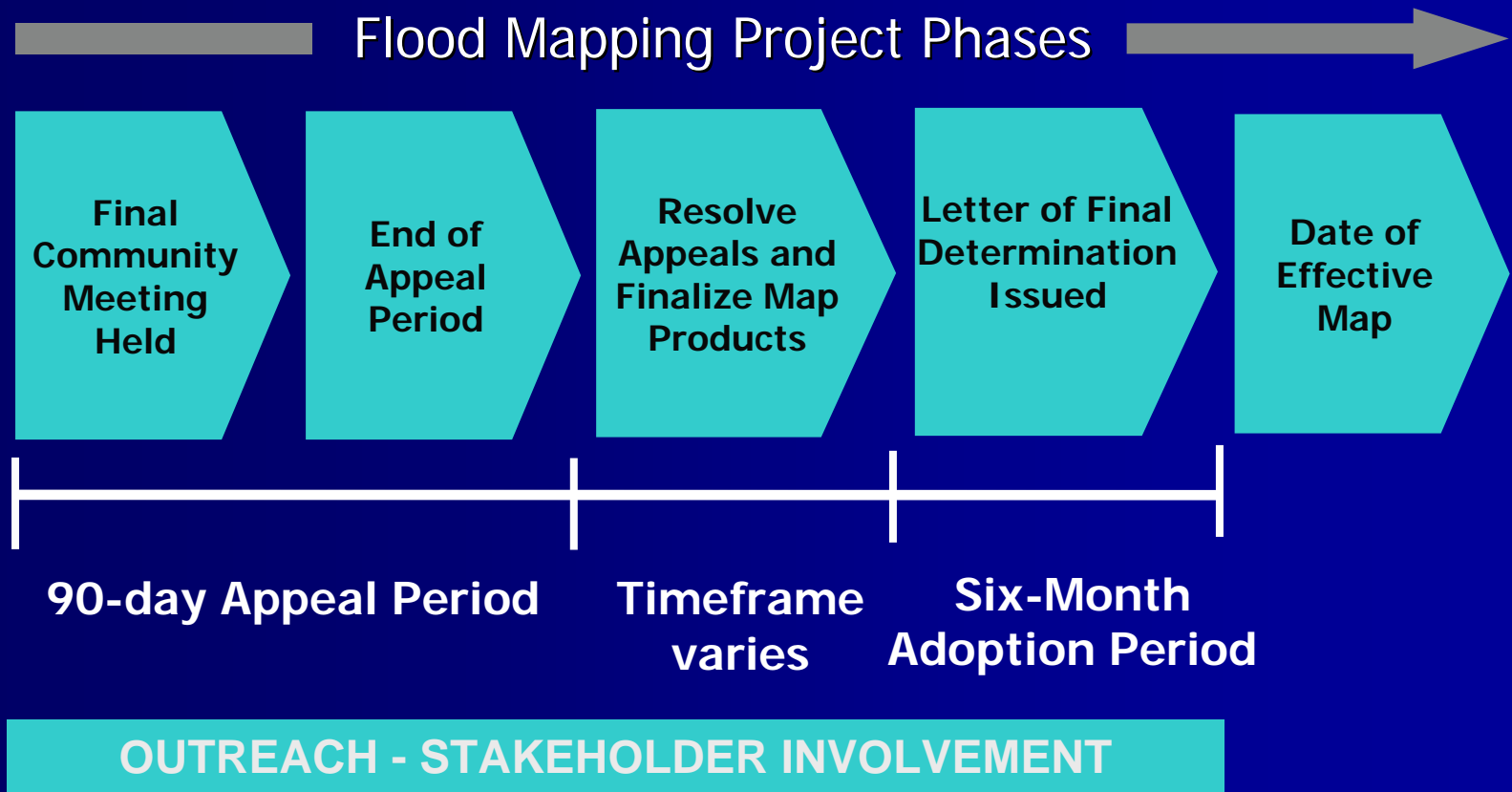
Community Involvement in Floodplain Mapping

- ▶ **Scoping Meetings**
- ▶ **Studies and Map Production**
- ▶ **Community Review and Appeals**
- ▶ **Map Adoption**

Overview of the Mapping Process



Overview of the Mapping Process



Thank You

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